

according to the present invention. These figures are  
in respective combination with Figs. 1A to Fig. 1C. The  
structures 100 in Fig. 1A to Fig. 1C are partially or  
totally perforated by virtue of an impression process  
5 in a direction from the top face 12 to the bottom face  
14, which forms a plurality of tiny gaps 15 on the  
structures 102 in Fig. 2A to Fig. 2C. After the  
impression process, the structures 100 in Figs. 1A to  
1C are permanently damaged, forming the structures  
10 102 in Figs. 2A to 2C, respectively. As shown in Fig. 2A  
to Fig. 2C, each of the gaps 15 comprises two edges  
physically in contact with each other to form a closed  
gap 15 when a pressure difference between the two sides  
of the structure 102 is approximately zero. At that  
15 time, the gaps 15 are approximately closed  
(pseudo-closed) and the surface of the structure 102  
has a pseudo-planar topography with multiple phases.  
When the structure 102 swells due to external pressure,  
the gaps 15 enlarge and become air permeable, and  
20 restore again when the external pressure is removed.

**In the claims:**

1. (Fourth amended) A composite film comprising:  
a polymer composite layer having two sides with  
25 a plurality of tiny gaps, each of the gaps  
comprising two edges physically in contact with  
each other to form a closed gap when a pressure  
difference between the two sides of the  
composite film is approximately zero; and  
30 a nonstick sealing layer attached to one side of  
the polymer composite layer to seal the gaps  
and make the gaps become air impermeable when

the pressure difference is approximately zero;  
wherein when the pressure difference between the  
two sides of the composite film increases, each of  
the gaps are enlarged by the air pressure exerted on  
one side of the composite film and become air permeable,  
and restore again while the pressure difference is  
removed.

10. (Fourth amended) A composite film comprising a  
first layer, and a second layer laminated on the first  
layer, the composite film comprising a top face on  
the first layer and a bottom face on the second layer,  
the composite film being processed by virtue of an  
impression process, thereby forming a plurality of  
tiny gaps, each of the gaps comprising two edges  
physically in contact with each other to form a closed  
gap when a pressure difference between the two sides  
of the composite film is approximately zero wherein  
when the pressure difference between the two sides  
of the composite film increases, each of the gaps are  
enlarged by the air pressure exerted on one side of  
the composite film and become air permeable, and  
restore again while the pressure difference is  
removed.

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